



U.S. Department
of Transportation

Pipeline and
Hazardous Materials
Safety Administration

400 Seventh Street, S.W.
Washington, D.C. 20590

JUN 1 - 2005

DOT-E 14164

EXPIRATION DATE: April 30, 2007

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Sigma-Aldrich Corporation
Milwaukee, WI
2. PURPOSE AND LIMITATION:
 - a. This exemption authorizes the transportation in commerce of a Division 4.2 material in a non-DOT specification pressure vessel. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
 - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.181 in that a non-DOT specification pressure vessel is not authorized, except as specified herein.
5. BASIS: This exemption is based on the application of Sigma-Aldrich Corporation dated February 18, 2005 submitted in accordance with § 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

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Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Aluminum alkyls	4.2	UN3051	I
Organometallic substance, liquid, pyrophoric, water-reactive (trimethylaluminum)	4.2	UN3394	I

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed are six (6) non-DOT specification pressure vessels designed, constructed and stamped to Section VIII, Division 1, 2001 edition, 2002 addenda, of the ASME Boiler and Pressure Vessel Code. Pressure vessels must be in accordance with Process Tube Systems Inc. Drawing No. AD03011-001 Revision 1 on file with the Office of Hazardous Materials Exemptions and Approvals and with the following:

Maximum capacity: 40.5 gallons (150 liter nominal)
Shell material: SA312 316L Schedule 10 pipe
SA403 316L (heads)
Min. wall thickness: 0.25 inch
Corrosion allowance: 0.010 inch
Design pressure: 175 psig
Openings: One top opening fitted with valve.
Valve is protected by a steel ring welded to the shell
Structural equipment: A foot ring is welded to the bottom of the pressure vessel.

b. TESTING - Prior to first use, and at intervals not to exceed five years, each pressure vessel must be tested by a person holding a valid Regualification Identification number Approval (cylinder retester) as follows:

(1) Visual inspection internally and externally in accordance with Compressed Gas Association Pamphlet C-6. Each pressure vessel must be approved, rejected, or condemned according to the criteria in the CGA pamphlet.

(2) Pressure test with nitrogen or other inert gas to a pressure of 75 psig. Pressure vessels must be carefully examined under test pressure and removed from service if evidence of a leak or defect is found.

(3) Each pressure vessel must be marked with the month and year of requalification.

c. OPERATIONAL CONTROLS -

(1) Material must not be shipped at a pressure greater than 10 psig.

(2) Each pressure vessels must be overpacked in a wooden crate.

8. SPECIAL PROVISIONS:

a. This exemption authorizes transportation of only six Process Tube Systems Incorporated pressure vessels with serial numbers 101 through 106. No new construction is authorized under this exemption.

b. A person who is not a holder of this exemption who receives a package covered by this exemption may reoffer it for transportation provided no modification or change is made to the package or its contents and it is reoffered for transportation in conformance with this exemption and the HMR.

c. A current copy of this exemption must be maintained at each facility where the package is offered or reoffered for transportation.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, and cargo vessel.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel, or motor vehicle used to transport packages covered by this exemption.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this exemption and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this exemption must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this exemption must receive training on the requirements and conditions of this exemption in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this exemption, including display of its number, when this exemption has expired or is otherwise no longer in effect.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this exemption are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this exemption must notify the Associate Administrator for

Hazardous Materials Safety -- OHMEA, in writing, of any incident involving a package, shipment or operation conducted under terms of this exemption.

Issued in Washington, D.C.



Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

JUN 1 2005

DATE

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590.

Attention: PHH-31.

Copies of this exemption may be obtained by accessing the Hazardous Materials Safety Homepage at <http://hazmat.dot.gov/exemptions> Photo reproductions and legible reductions of this exemption are permitted. Any alteration of this exemption is prohibited.

PO: CWFreeman